1. Identification
1.1. Product identifier

Trade name: Protectosil® CHEM-TRETE® 40 VOC
Chemical Name: CHEM-TRETE® BSM 40 VOC

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified: For industrial use
Function: Waterproofing agent

1.3. Details of the supplier of the safety data sheet

Company: Evonik Corporation USA
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000
Telefax: 973-929-8040
Email address: Product-Regulatory-Services@Evonik.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC - US & CANADA: 800-424-9300

CHEMTREC MEXICO: 01-800-681-9531

CHEMTREC INTERNATIONAL: +1 703-527-3887 (collect calls accepted)

Product Regulatory Services: 973-929-8060

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200

Flammable liquids: Category 2  H225
Skin irritation: Category 2  H315

2.2. Label elements

Statutory basis: Classification according to Regulation 29CFR 1910.1200
Symbol(s):
Signal word

Hazard statement
H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.

Precautionary statement:

Prevention
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P264 - Wash skin thoroughly after handling.
P280 - Wear protective gloves/ eye protection/ face protection.

Reaction
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332 + P313 - If skin irritation occurs: Get medical advice/ attention.
P362 - Take off contaminated clothing and wash before reuse.
P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage
P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards
None known.

3. Composition/information on ingredients

- **Triethoxyisobutylsilane**
  
  >>= 30% - < 60%
  
  CAS-No. 17980-47-1
  
  Flammable liquids Category 4
  
  Skin irritation Category 2

- **Ethanol; ethyl alcohol**
  
  >>= 30% - < 60%
  
  CAS-No. 64-17-5
  
  Flammable liquids Category 2

4. First aid measures

4.1. Description of first aid measures

**Inhalation**
If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention.

**Skin contact**
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Obtain medical attention. Wash clothing before reuse. Destroy or thoroughly clean contaminated shoes before reuse.

**Eye contact**
In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.
Ingestion
If swallowed, get medical attention immediately. Only induce vomiting if directed by a physician. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms
None known

4.3. Indication of any immediate medical attention and special treatment needed
None known.

5. Fire-fighting measures

5.1. Extinguishing media
Suitable extinguishing media: Use water spray or fog, foam, dry chemical or CO2.
Unsuitable extinguishing media: High volume water jet.

5.2. Special hazards arising from the substance or mixture
Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

5.3. Advice for firefighters
As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.
Containers can build up pressure if exposed to heat (fire). Cool with water spray.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition. Ventilate the area. Wear personal protective equipment; see section 8.

6.2. Environmental precautions
Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

6.3. Methods and material for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Additional advice
Remove sources of ignition and ventilate area.
Run off may create fire or explosion hazard in sewer.
Assure sufficient ventilation.

7. Handling and storage

7.1. Precautions for safe handling
Keep away from heat. Keep away from sparks, flames and other sources of ignition. Avoid breathing vapor or mist. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Follow all MSDS/Label precautions even after the container is emptied because it may retain product residue. Vapors may spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source.
Wear personal protective equipment; see section 8.

7.2. Conditions for safe storage, including any incompatibilities
Advice on protection against fire and explosion

This material may have a low electrical conductivity and therefore may accumulate dangerous levels of static electricity. An ignitable vapor-air mixture can form inside storage tanks.

The user must be sure to dissipate static charge by careful bonding and grounding of all equipment and personnel involved in fluid transfer with continuity checks to prove effectiveness. Additional precautions against fire and explosion are the use of inert gas to purge vapor space; dip-pipes while filling vessels, especially lined vessels; grounded tank level floats; reduced flow velocity; self-closing valves on transfer lines and flame arrestors in vent lines.

Additional guidance on fire and explosion protection may be found in various consensus standards, including NFPA 30, 69 and 77 and API 2003 as well as OSHA regulation 29CFR1910.106.

Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Storage
Keep tightly closed in a dry, cool and well-ventilated place.
Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container.

8. Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Ethanol; ethyl alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
</tr>
<tr>
<td>Control parameters</td>
</tr>
<tr>
<td>64-17-5</td>
</tr>
<tr>
<td>1000 ppm</td>
</tr>
<tr>
<td>1900 mg/m3</td>
</tr>
<tr>
<td>Permissible exposure limit:(OSHA Z1)</td>
</tr>
<tr>
<td>Control parameters</td>
</tr>
<tr>
<td>1000 ppm</td>
</tr>
<tr>
<td>1900 mg/m3</td>
</tr>
<tr>
<td>Time Weighted Average (TWA) Permissible Exposure Limit (PEL):(US CA OEL)</td>
</tr>
<tr>
<td>Control parameters</td>
</tr>
<tr>
<td>1000 ppm</td>
</tr>
<tr>
<td>Short Term Exposure Limit (STEL):(ACGIH)</td>
</tr>
<tr>
<td>Control parameters</td>
</tr>
<tr>
<td>1000 ppm</td>
</tr>
<tr>
<td>1900 mg/m3</td>
</tr>
<tr>
<td>Time Weighted Average (TWA):(TN OEL)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Engineering measures
Use this product preferably in a closed system, or use process enclosures, local exhaust ventilation or other engineering controls to minimize airborne exposure.

Personal protective equipment

Respiratory protection
A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection
Use impermeable gloves.

Eye protection
Use chemical splash goggles or face shield.
Skin and body protection
A safety shower and eye wash fountain should be readily available.
To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: liquid
- Colour: clear
- Form: liquid
- Odour: strong odor

- Odour Threshold: no data available
- pH: not determined
- Melting point/range: no data available
- Boiling point/range: 78 °C (760 hPa)
- Flash point: 12.78 °C
  - Method: Pensky-Martens C.C.
- Evaporation rate: no data available
- Flammability (solid, gas): No data available
- Lower explosion limit: not determined
- Upper explosion limit: not determined
- Vapour pressure: 74 hPa (22 °C)
- Relative density: 0.8
- Density: no data available
- Water solubility: not miscible
  - Decomposition by hydrolysis
- Partition coefficient: n-octanol/water: no data available
- Autoignition temperature: no data available
- Viscosity, dynamic: no data available
- Viscosity, kinematic: no data available

9.2. Other information

- Explosiveness: Vapors can form explosive mixtures with air.
  - % VOC (gm/l): 600
10. Stability and reactivity

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions
No dangerous reactions known.

10.4. Conditions to avoid
Avoid high temperatures and sources of ignition.

10.5. Incompatible materials
Water, Acids, oxidizing substances

10.6. Hazardous decomposition products
Silicone polymers.
Stable under normal conditions.
Product will not undergo hazardous polymerization.

11. Toxicological information

11.1. Information on toxicological effects
ncarcinogenicity assessment Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA.

Toxicological information on components
Isobutyltriethoxysilane

<table>
<thead>
<tr>
<th>Effect</th>
<th>Route of exposure</th>
<th>Route/Time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg</td>
<td>OECD Test Guideline 401</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>Rat, Dust/Mist</td>
<td>5.88 mg/l / 4 h</td>
<td>OECD Test Guideline 403</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg</td>
<td>OECD Test Guideline 402</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>Rabbit</td>
<td>Skin irritation</td>
<td>OECD Test Guideline 404</td>
</tr>
<tr>
<td>Eye irritation</td>
<td>Rabbit</td>
<td>No eye irritation</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

Rapid evaporation of the liquid may cause frostbite.
Sensitization maximization test Guinea pig: Does not cause skin sensitisation.  
Method: OECD Test Guideline 406

Repeated dose toxicity Oral Rat / 28-day  
NOAEL: > 1000 mg/kg  
Method: OECD Test Guideline 407

Assessment of STOT single exposure Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Assessment of STOT repeat exposure Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Risk of aspiration toxicity No aspiration toxicity classification

Genotoxicity in vitro Ames test Salmonella typhimurium negative  
Method: OECD TG 471

chromosomal aberration Chinese hamster (V 79 -cells) negative  
Method: OECD TG 473

chromosomal aberration Chinese hamster (CHO K1 -cells) negative  
Method: OECD TG 476

Genotoxicity in vivo chromosomal aberration Mouse Oral negative  
Method: OECD TG 474

Carcinogenicity No evidence that cancer may be caused.

Toxicity to reproduction Animal model trials have produced no evidence of fertility damage.

Ethanol; ethyl alcohol

Acute oral toxicity LD50 Rat: 6200 mg/kg  
Test substance: Ethanol (IUCLID)

Acute inhalation toxicity LC50 Rat: 95.6 mg/l / 4 h  
Test substance: Ethanol  
RTECS

Skin irritation Rabbit  
Not irritating.  
Method: OECD Test Guideline 404  
Test substance: Ethanol

The liquid removes oil from the skin. Repeated skin contact can cause dry and fragile skin.

Sensitization Magnusson & Kligman : not sensitizing  
Test substance: Ethanol
12. Ecological information

12.1. Toxicity

*no data available*

12.2. Persistence and degradability

Biodegradability: *no data available*

12.3. Bioaccumulative potential

Bioaccumulation: *no data available*

12.4. Mobility in soil

Mobility: *no data available.*

12.5. Other adverse effects

Further Information: *No ecotoxicological studies are available.*

13. Disposal considerations

13.1. Waste treatment methods

**Product**

Waste must be disposed of in accordance with federal, provincial, state and local regulations. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS TORCH.

**Uncleaned packaging**

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

**D.O.T. Road/Rail**

14.1. UN number: UN 1170
14.2. UN proper shipping name: Ethanol solution
14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: No
Air transport ICAO-TI/IATA-DGR

14.1. UN number: UN 1170
14.2. UN proper shipping name: Ethanol solution
14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes
   IATA-C: ERG-Code 3L
   Maximum Net Quantity per Package 60 L
   IATA-P: ERG-Code 3L
   Maximum Net Quantity per Package 5 L

Sea transport IMDG-Code/GGVSee (Germany)

14.1. UN number: UN 1170
14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: No
   EmS: F-E,S-D

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
   for transport approval see regulatory information

15. Regulatory information

US Federal Regulations

OSHA

If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Fire Hazard
SARA Title III Section 313 Reportable Substances
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

Toxic Substances Control Act (TSCA)
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations

The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in section 2 and 15 of this MSDS.

California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

<table>
<thead>
<tr>
<th>Component</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>3</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>1</td>
</tr>
</tbody>
</table>

NFPA Ratings

<table>
<thead>
<tr>
<th>Component</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>3</td>
</tr>
<tr>
<td>Reactivity</td>
<td>1</td>
</tr>
</tbody>
</table>

16. Other information

Further Information

Revision date: 04/21/2015

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.
SAFETY DATA SHEET
Protectosil® CHEM-TRETE® 40 VOC

Material no. 141224
Specification
Order Number

Version 4.0 / US
Revision date 04/21/2015
Print Date 09/16/2015
Page 12 / 13

Legend
ACC American Chemistry Council
ACGIH American Conference of Governmental Industrial Hygenists
ACS Advisory Committee on Sustainability
ADI Acceptable Daily Intake
ASTM American Society for Testing and Materials
ATP Adaptation to Technical Progress
BCF Bioconcentration factor
BOD Biochemical oxygen demand
c.c. closed cup
CAO Cargo Aircraft Only
Carc Carcinogen
CAS Chemical Abstract Services
CDN Canada
CEPA Canadian Environmental Protection Act
CERCLA Comprehensive Environmental Response – Compensation and Liability Act
CFR Code of Federal Regulations
CMR carcinogenic-mutagenic-toxic for reproduction
COD Chemical oxygen demand
DIN German Institute for Standardization
DMEL Derived minimum effect level
DNEL Derived no effect level
DOT Department of Transportation
EC50 half maximal effective concentration
EPA Environmental Protection Agency
ErC50 Reduction of Growth Rate
ERG Emergency Response Guide Book
FDA Food and Drug Administration
GHS Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP Good Laboratory Practice
GMO Genetic Modified Organism
HCS Hazard Communication Standard
HMIS Hazardous Materials Identification System
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
ICAO-TI International Civil Aviation Organization- Technical Instructions
ICCA International Council of Chemical Association
ID Identification number
IMDG International Maritime Dangerous Goods
IUPAC International Union of Pure and Applied Chemistry
ISO International Organization For Standardization
LC50 50 % Lethal Concentration
LD50 50 % Lethal Dose
L(E)C50 LC50 or EC50
LOAEL Lowest observed adverse effect level
LOEL Lowest observed effect level
MARPOL International Convention for the Prevention of Pollution from Ships
NFPA National Fire Protection Association
NOAEL No observed adverse effect level
NOEC no observed effect concentration
NOEL no observed effect level
o. c. open cup
OECD Organisation for Economic Cooperation and Development
OSHA Occupational Safety and Health Administration
PBT Persistent, bioaccumulative, toxic
PEC Predicted effect concentration
PNEC Predicted no effect concentration
RQ Reportable Quantity
SDS Safety Data Sheet
STOT Specific Target Organ Toxicity
UN United Nations
vPvB very persistent, very bioaccumulative
voc

WHMIS

WHO

volatile organic compounds

Workplace Hazardous Materials Information System

World Health Organization